

OHIO AGRICULTURAL EXPERIMENT STATION

BULLETIN 133

WOOSTER, OHIO, MARCH, 1902

POTATOES: COMPARISON OF VARIETIES FERTILIZER TESTS

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BULLETIN

OF THE

Ohio Agricultural Experiment Station

NUMBER 133

MARCH, 1902

POTATOES

BY W. J. GREEN AND C. W. WAID

COMPARISON OF VARIETIES

The following table shows the average yield of potatoes per acre for different periods of years. In the first column are included the average yields per acre of all named varieties worthy of mention, grown at the Station the past season (1901). Varieties known only by number are not included.

The second column includes such varieties as have been at least fairly successful, and have been grown on the Station farm for the past three years.

The third column includes only those varieties which have been thoroughly tested on the Station farm during the past five years.

As previously stated in Bulletin No. 76, it is our custom, in making trials of varieties, to duplicate the plots. While the duplicate plots are in the same field, or section, they are usually located some distance away and often on soil differing so much from the original plots that practically two trials of each variety are made each year. These are averaged and counted as one test.

It is evident, therefore, in the following table, with the exception of some of the newer varieties of which we had only a small amount of seed, that the varieties given for one year have been tested twice, those given for three years, six times, and those given for five years, ten times.

TABLE OF YIELD OF POTATOES FOR DIFFERENT PERIODS OF YEARS

Name	Yield per acre for 1901	Average yield per acre for 3 years 1899 to 1901	Average yield per acre for 5 years 1897 to 1901
	Bushels	Bushels	Bushels
Acme	219.3	209.1	209.1
Baker's Extra Early	202.1	.....	.....
Bovee	223.8	219.5	234.2
Carman No. 3	203.4	223.7	218.3
Commercial	211.5	227.9	.....
Dewey	229.8	217.5	.....
Early Carman	234.6	.....	.....
Early Dawn	163.4	154.4	.....
Early Fortune	286.6	.....	.....
Early Harvest	211.0	206.3	211.5
Early Michigan	226.8	207.3	211.6
Early Norther	223.4	.....	.....
Early Norwood	286.9	.....	.....
Early Ohio	181.0	192.4	203.0
Early Rose	256.6	252.5	.....
Early Snowball	204.7	161.9	156.0
Early Trumbull	249.8	231.3	256.7
Early White Ohio	142.9	172.2	132.3
Enormous	227.4	210.3	270.6
Eureka	156.7	.....	.....
Extra Early Pioneer	227.0	187.2	.....
Gem of Aroostook	171.4	231.6	.....
Green Bay Triumph	201.4	191.6	.....
Hewe's Early	196.6	.....	.....
Irish Queen	166.5	162.3	.....
Joseph	186.2	174.0	.....
Jr. Pride of the South	160.0	162.8	152.8
King of Michigan	152.6	.....	.....
Lakeside Champion	167.3	186.0	.....
Livingston	219.7	248.7	257.8
Maule's Early Thoroughbred	296.4	255.7	227.9
Northern Beauty	321.8	.....	.....
Pat's Choice	254.0	235.6	.....
Pingree	276.4	234.2	.....
Pride of Britain	230.6	.....	.....
Quick Crop	300.7	.....	.....
Rural New Yorker No. 2	216.9	213.0	209.2
Sir Walter Raleigh	252.3	248.6	237.9
Sir William	225.5	241.5	245.4
Snowflake, Jr.	244.7	.....	.....
State of Wisconsin	124.1	130.6	.....
Suffolk Beauty	158.8	221.6	220.4
(The) June	177.8	.....	.....
(The) Roberts	257.1	.....	.....
(The) Milwaukee	236.9	.....	.....
Triumph	200.5	184.1	.....
Uncle Sam	229.9	239.7	248.9
Vaughan's Improved Early Ohio	209.9	.....	.....
Vigoroso	250.2	260.7	.....
White Beauty	198.3	172.0	.....
White Bliss Triumph	168.8	165.5	163.6
White Mountain	227.3	222.7	.....
White Ohio	174.8	.....	.....
Whiton's White Mammoth	228.5	251.4	.....
Wonderful	192.0	.....	.....

NOTES ON VARIETIES

The following notes on varieties are rather more descriptive than usual, for the reason that such descriptions will tend to help those who are about to make selections for special purposes.

In selecting a variety one must first fix in mind an ideal of that which is needed for his particular purpose, whether for the table or for market, and often for a special market, which may require a potato of a particular shape or color. With this ideal in mind he can be much more definite in his search for the desired variety.

In these descriptions particular characteristics are given as far as we have been able to give them, and attention is called in many cases to resemblance to other varieties. So far as adaptability of varieties to certain soils is concerned not much help can be given, any further than to state that the soil on the Station farm is made up of considerable quantities of silt, mixed with clay, and is usually described as a clay loam. It is moderately fertile and has not been highly enriched. It is better adapted to wheat and potatoes than to corn. The potato crop seldom fails on this soil, but large yields are not often secured.

The notes on some of the newer sorts are quite meager, because more could not be given from personal experience and observation.

The depth at which potatoes grow is influenced largely by the method of cultivation; thus the notes on this point would not hold true under a method differing materially from that used at the Station, which is practically level culture.

The notes given on tendency to sprout and keeping qualities of the various varieties have been made from rather limited observation, and some of them may have to be modified after further experience.

Acme. Plants medium size, 16 to 20 inches tall; somewhat spreading, more so than Early Ohio or Early Trumbull; medium to large leaflets, healthy; blights but little.

Tubers medium size; resembling Early Ohio in form and color, although not as uniform. The most noticeable difference in appearance between the Acme and Early Ohio is in the eyes, the eyes of the Acme being more deeply set than those of the Early Ohio; skin quite smooth; tubers grow medium depth and close together; yields about the same as Early Ohio and ripens at about the same time. Does not sprout easily and is a good keeper.

Baker's Extra Early. (Ford.) Plants 16 to 20 inches tall; growth strong, upright, broadly spreading; large stalks and leaflets; not much inclined to blight.

Tubers medium to large, very few too small for market; medium length, cylindrical; color pink, a little lighter than the Early Ohio; skin quite smooth; eyes medium size, shallow to medium in depth. A clean looking potato. This variety did quite well here this season

(1901). Resembles the Early Ohio very much and yielded about the same this year. Does not sprout easily, and is a good keeper.

Banner. Plants 20 to 25 inches tall; slender stems, purple at base, thin foliage, dark color.

Tubers resemble Carman No. 3; potatoes grow medium in depth and quite close together. In 1899 yielded very heavily, in 1900 yielded well, in 1901 was not grown at the Station.

Bovee. Plants 20 to 24 inches tall; a strong grower; large stalks, three to five in number; somewhat spreading, leaflets large, thick foliage; not much inclined to blight.

Tubers medium size; medium length; cylindrical; color white with pink markings; eyes medium size and depth. Not quite as early as Early Trumbull, Acme or Early Ohio. A prolific and profitable variety. Does not sprout badly and is a good keeper.

Brookfield. Plants 20 to 24 inches tall, spreading; slender stems, purple at base; thick dark colored foliage, resembling Carman No. 3.

Tubers grow medium depth and close together. Gave a good yield the one season grown at the Station.

Carman No. 3. Plants 22 to 28 inches tall; upright; branches grow upright and slender; foliage medium dark color; vigorous.

Tubers medium to large; short; slightly flattened; often tapering toward stem end; color white, not quite as clear as Rural New Yorker No. 2; skin smooth; eyes few and shallow; tubers grow medium in depth and close together. A good market variety, but not of the best quality. Small and unmarketable tubers very few. Some varieties give a greater total yield per acre, but few excel it in marketable product. A medium late potato. Sprouts quite easily; is a fairly good keeper, but not as good as some varieties.

Commercial. Plants 22 to 26 inches tall; a strong grower of upright tendency; thick heavy stems; very thrifty appearance; peculiar growth, branching out like a tree.

Tubers medium to large, very few too small for market; form somewhat irregular; medium length; tapering toward stem end; flattened; color light pink; nearly white; surface irregular; deeply indented at places, usually at eyes; would waste considerably in paring; skin somewhat rough; eyes small and medium to shallow, except where indented. Potatoes grow scattering in hill and medium depth. Quite prolific but too large a per cent off shape. Does not sprout easily. A good keeper.

Country Gentleman. Plants 20 to 24 inches tall; very spreading, slender stems, heavy, dark colored foliage.

Tubers medium to large; medium length; oval; rather irregular; color white with irregular pink markings; eyes small; shallow; potatoes grow close together and medium in depth. This variety resembles Livingston except in color. A good mid-season variety.

Dewey. Plants 20 to 25 inches tall; upright, tall, slender stems, purple at base; foliage resembles Carman No. 3 in manner of growth but is a shade lighter in color. Not very much inclined to blight.

Tubers medium to large; form quite regular; short; somewhat flattened; usually tapering toward stem end; resembles Carman No. 3 in form, a little more regular perhaps; color clear white, about the same as Rural New Yorker No. 2; skin very smooth and clean; eyes few; rather shallow, large. Potatoes grow close together and medium in depth. Does not sprout quite as easily and seems to be a little better keeper than Carman No. 3. Ripens with Carman No. 3.

Early Andes. Plants 20 to 25 inches tall; upright, does not spread much; foliage of medium density; light color.

Tubers medium to large; oval; slightly flattened; color pink; skin smooth; eyes shallow; similar to Early Ohio in form and color; Potatoes grow shallow and close together.

Early Carman. (Ford.) Plants 16 to 20 inches tall; an upright, somewhat spreading grower; stalks not much branched; thrifty; not much inclined to blight.

Tubers medium to large; form somewhat variable, mostly medium length; flattened; tapering slightly toward stem end; color would be called white although not very clear; skin quite smooth; eyes medium size and depth. Fairly promising, although a little irregular in form. Sprouts quite quickly, but seems to remain firm even after sprouting considerably.

Early Dawn. Plants 16 to 20 inches tall; slender stems; large leaflets; foliage medium dark color.

Tubers medium size; medium length; cylindrical; resembling Early Rose somewhat in form; color pink, about the same as Early Ohio; skin smooth; eyes quite large, medium depth. Potatoes grow medium in depth and close together. Does not yield as well as most early varieties. Does not sprout quickly and seems to be one of the best keepers of the early varieties.

Early Fortune. (Gregory.) Plants 20 to 25 inches tall; upright, broad spreading; a strong grower. Has very little tendency to blight.

Tubers medium to large; medium length; slightly flattened; tapering toward stem end; color pink, a trifle lighter than Early Ohio; skin smooth; eyes medium size and depth. A clean looking potato; has a smoother, neater appearance than Early Ohio. One year's trial indicates prolificacy. Sprouts quite quickly but keeps well.

Early Harvest. (Jerrard.) Plants 18 to 22 inches tall; upright, spreading; a strong grower; medium sized stems; medium dark color. Not very subject to blight.

Tubers medium size; 12 per cent too small for market in crop of 1901; medium to long, slightly flattened; color white; skin smooth;

eyes quite large, medium depth. A clean looking potato. One of the best early white sorts that has been given a long trial at the Station. Sprouts quite quickly but remains firm even after having sprouted somewhat.

Early Michigan. Plants 18 to 22 inches tall; spreading; large leaflets; dark colored foliage; stems medium size.

Tubers medium to large; medium length; flattened; oval; color white; skin quite smooth, russeted somewhat, giving a brownish appearance; eyes small, shallow; a good many small potatoes in 1901; 15 per cent unmarketable. Does not run as large nor as even as some; quality good. Total yield about the same as Early Harvest. Sprouts quite quickly but keeps fairly well.

Early Norther. Plants 20 to 24 inches tall; spreading, with heavy stems, medium sized leaflets; vigorous.

Tubers medium size; 15 per cent too small for market in 1901; medium length, somewhat flattened, some tapering considerably, others oval; color dark pink; skin quite smooth; eyes small and shallow. This variety has usually given quite as good satisfaction as any of its class. Yields about same as Bovee and seems to have about as good keeping qualities as Early Harvest and Early Michigan.

Early Norwood. (Rawson.) Plants 16 to 20 inches tall; upright, broad spreading, very even. Very little tendency to blight.

Tubers medium size; medium to long; flattened, some tapering considerably, others oval; color dark pink, bordering on red; skin smooth; eyes small, medium depth; gave a good yield in 1901; the only year tried at the Station. Keeping qualities about the same as Early Ohio.

Early Ohio. Plants 20 to 24 inches tall; an upright, spreading grower; large stems, medium sized leaflets.

Tubers medium size; medium, rather short, cylindrical, run quite even; color pink; skin quite smooth but not as smooth as Early Fortune or Early Norwood; eyes medium size, quite shallow, rather conspicuous. Potatoes grow quite close together and medium in depth. This is still the standard early variety. Does not sprout quickly and keeps as well as any early variety.

Early Six Weeks. Plants 22 to 25 inches tall; a strong growing plant, thick heavy stems, spreading, thin foliage.

Tubers can hardly be distinguished from Early Ohio. A good early variety.

Early Snowball. Plants 16 to 20 inches tall; a strong growing, rather spreading plant, medium sized stems, large leaflets; foliage medium density, medium dark color.

Tubers medium size; very short, nearly as broad as long, roundish, slightly flattened; color white with pinkish eyes; skin fairly smooth; eyes large, shallow, inconspicuous. Does not yield as

heavily as most other early varieties. Does not sprout quickly, and sprouts are small. Seems to be a good keeper.

Early Thoroughbred. Plants 22 to 26 inches tall; spreading, covering a good deal of ground; medium sized leaflets, dark color; not much inclined to blight.

Tubers medium size; form variable, quite long, some taper toward one end and some toward the other and some toward both ends, flattened; color dark pink, much like Early Norwood; skin inclined to be rough over a part of the surface; eyes medium size, shallow. A good early variety. Possibly an improvement upon Early Rose. Sprouts quite quickly. A fairly good keeper.

Early Trumbull. Plants 18 to 22 inches tall; quite spreading vines, thrifty; foliage thick, medium dark color.

Tubers medium to large; form variable, some medium length, some quite short; slightly flattened, a little irregular; color white; skin usually smooth, sometimes roughened; eyes small, shallow, inconspicuous. Has proven to be one of the best early sorts tested here, yielding ahead of most early varieties. Sprouts quite quickly. Keeps about the same as Early Thoroughbred.

Early White Ohio. Plants 16 to 22 inches tall; a medium sized grower, with upright tendency; does not spread much; slender stem; medium to large leaflets; foliage medium density; light color.

Tubers medium to large; medium length; some quite short, slightly flattened; a little irregular; color white; skin inclined to be rough over about half of the surface; eyes medium size, shallow. Appears not to be very prolific. Sprouts quite quickly. Keeps fairly well but not as well as most other Ohio sorts.

Enormous. Plants 20 to 22 inches tall; rather tall, spreading variety; large stems; large leaflets; foliage medium in density; light in color.

Tubers large to very large; rather long; slightly flattened; often irregular; color white; skin inclined to be rough on many specimens; eyes variable in depth, but mostly shallow and inconspicuous. A heavy yielder and a good market variety but of rather poor quality. This variety has not given satisfactory yields generally, but has nearly always done well at the Station. A medium late variety. Sprouts quite quickly but not very badly. A good keeper.

Eureka. (Burpee.) Plants 14 to 18 inches tall; rather low, spreading, dark, rather open foliage; very little tendency to blight.

Tubers medium size to large, some too small for market; length no more or very little more than diameter, slightly flattened, somewhat irregular; color clear white, turning green very quickly on exposure to light; skin smooth; eyes, depth variable, some very deep and some shallow. A clean looking potato. One year's trial does

not indicate a very heavy yielder. Fully as early or a little earlier than Bovee. Sprouts quite quickly but not badly. A good keeper.

Extra Early Pioneer. (Ford.) Plants 16 to 22 inches tall; a strong growing, rather large plant; medium sized stems and leaflets; very little tendency to blight.

Tubers medium to large, few too small for market; mostly long, slightly flattened, some oval, tapering toward stem end; color pink, lighter than Early Ohio, about the same as Baker's Extra Early; skin inclined to be rough on some, usually smooth; eyes medium to large, shallow. Gives about an average yield for an early sort. Sprouts quickly.

Gem of Aroostook. (Jerrard.) Plants 20 to 24 inches tall; thick stems, upright, somewhat spreading; medium dark colored, thick foliage; blights some but not badly.

Tubers medium to large; medium length; flattened; color white; skin very smooth; eyes numerous, medium size, shallow. Appears to be promising as a midseason variety. Does not sprout very badly. Apparently a good keeper.

Green Bay Triumph. Plants 20 to 24 inches tall; a medium tall, spreading grower, with large stalks and leaflets; foliage light color; quite inclined to blight.

Tubers small to medium; very short, length often less than diameter; roundish, usually slightly flattened; color yellowish white with pink tint to eyes; skin fairly smooth; eyes medium size, shallow. Yields about the same as Early Ohio. Does not sprout badly. A good keeper.

Hewes' Early. (Vaughn.) Plants 18 to 22 inches tall; a broad spreading variety; large stalks and leaflets, not much inclined to blight.

Tubers medium size; few too small for market; resembles Early Ohio in form and color, hard to distinguish between them; skin quite smooth; eyes shallow. A good looking potato. Does not sprout badly and has about as good keeping qualities as Early Ohio.

Imes' Blight Proof Ohio. (Imes.) Plants 22 to 26 inches tall; a strong grower, broad spreading, very small stalks, vigorous; not inclined to blight.

Tubers large, medium to long, slightly flattened, some quite oval, others tapering toward stem end; color pink, lighter than Early Ohio; skin quite smooth; eyes large, medium to shallow. Grows deep and close together. A good potato, of the Ohio type. Does not sprout quickly and keeps very well.

Imes' White Ohio Seedling. (Imes.) Plants 16 to 20 inches tall; broad spreading, very even in row; large stalks, vigorous, very little tendency to blight.

Tubers medium to large; short to medium, oval; color yellowish white, pink eyes; skin quite smooth; eyes shallow; tubers grow deep and close together.

Irish Queen. Plants 18 to 22 inches tall; a strong, compact grower, not very spreading, upright, large leaflets, thrifty.

Tubers medium size, short, a little irregular, some oval, some rounded, mostly flattened; color white, about the same as Rural New Yorker No. 2, except a slight pink tint about the eyes; skin quite smooth; eyes small, shallow, inconspicuous. Potatoes grow shallow and close together. Not a heavy yielder. Sprouts quickly, and is inclined to shrivel; not a very good keeper.

Joseph. Plants 20 to 24 inches tall, spreading; stems thick; dense foliage; very little tendency to blight.

Tubers medium size, 20 per cent too small for market in crop of 1901; medium to long, flattened, oval; color light pink, about the same as Extra Early Pioneer; skin quite smooth; eyes small, mostly shallow, some medium depth. Potatoes grow medium depth and close. A fairly good but not heavy yielder. Sprouts quickly and is not an extra good keeper.

King of Michigan. Plants 16 to 20 inches tall; a strong spreading grower, with large stems; very little tendency to blight.

Tubers medium size, 15 per cent too small for market in crop of 1901; short to medium length, slightly flattened, some slightly tapering, some oval; color white, about the same as Sir Walter Raleigh; skin smooth; eyes small, shallow, inconspicuous; a clean looking potato. Not a heavy yielder. Sprouts quickly, but remains firm even after sprouting considerably. A good keeper.

Late Beauty. Plants 20 to 24 inches tall; upright slender stems, thick foliage.

Tubers resemble Rural New Yorker No. 2. Potatoes grow shallow and somewhat scattering in hill.

Lakeside Champion. Plants 20 to 24 inches tall; an upright, spreading grower, medium sized stems, slightly irregular in row; somewhat inclined to blight.

Tubers medium size; medium to long, considerably flattened, tapering toward one end or the other; color white; skin a little rough; eyes medium size, shallow; too irregular for best appearance. Sprouts quite quickly. Not a very good keeper.

Livingston. Plants 18 to 24 inches tall; a tall, upright, spreading grower, very vigorous, thick stems; not inclined to blight.

Tubers medium to large; medium to long, uniform size nearly entire length, sometimes tapering; slightly flattened; color white, pink eyes, discolors quickly and badly on short exposure to light; skin sometimes slightly russeted; eyes small and shallow. A good yielder and cooker. Does not sprout quickly. Is very firm and a good keeper.

Northern Beauty. (Jerrard.) Plants 20 to 24 inches tall; upright, spreading, with an abundance of foliage, vigorous; very little tendency to blight.

Tubers medium to large; medium to long, usually flattened some, a few oval; color about the same as Early Rose or a little lighter; skin a little rough; eyes medium to large, medium depth. Gave a good yield in 1901, the only year tested here; a fairly promising potato. Sprouts very quickly. A fairly good keeper.

No. 50. (D. J. Miller.) Plants 16 to 20 inches tall; not a strong grower; slender branches. Very little tendency to blight.

Tubers medium size, long, cylindrical; some taper toward one end and some toward both ends; color white; skin quite smooth; eyes numerous, medium to large, shallow to medium depth, conspicuous. Potatoes grow shallow and close together. Does not sprout quickly. Seems to be a good keeper.

No. 52. (D. J. Miller.) Plants 16 to 20 inches tall; a compact grower, vigorous. Not inclined to blight.

Tubers large to very large; very few too small for market; short to medium length, thick, slightly flattened; color white; eyes few, medium size and medium depth. Quite a good looking potato. One of the largest this year. Seems to be promising. Does not sprout quickly and seems to be an extra good keeper.

No. 53. (D. J. Miller.) Plants 16 to 20 inches tall; an upright grower, thrifty, but not a strong grower. Not much tendency to blight.

Tubers medium to large; form somewhat irregular, mostly slightly flattened, short and thick, somewhat oval; color white; skin quite rough but clean; eyes few, small, of variable depth. A good deal like No. 52 but not as good. Grows quite close together and shallow. Does not sprout quickly.

Pat's Choice. Plants 20 to 24 inches tall; upright, spreading, very even in row; slender stems, medium thick foliage, thrifty; not inclined to blight.

Tubers medium to large; medium to long, slightly flattened, some toward stem end; color pink, eyes decidedly pink; skin usually smooth, some specimens quite rough; eyes few, small, shallow. A good potato, shapely, fine appearance, and of good quality. Yields about the same as Sir Walter Raleigh. Does not sprout quickly and is a good keeper.

Pingree. Plants 18 to 22 inches tall; upright, somewhat spreading, very even in row, thrifty, thick stems; not very susceptible to blight.

Tubers medium to large; medium to long, slightly flattened, of uniform diameter nearly the entire length; color white, about the same as Rural New Yorker No. 2; skin smooth; eyes medium size and medium depth. Potatoes grow shallow and quite close together.

Yields about the same as Pat's Choice. Sprouts quickly but remains quite firm and is a fairly good keeper.

Market Prize. (Ford.) Plants 18 to 22 inches tall; upright, spreading, thick stems, very even in row, thrifty; not inclined to blight.

Tubers medium to large, very few too small for market; short, considerably flattened, more or less oval in outline, resembling Early Trumbull as nearly as any in form; color white; skin a little inclined to be rough, eyes few, small, inconspicuous. Potatoes grow scattering and deep. Seems to be promising.

Pride of Britain. (Hammond.) Plants 18 to 22 inches tall; an upright, compact grower, slightly spreading, large leaflets, even; not much tendency to blight.

Tubers medium to large; medium to long, inclined to be cylindrical, some taper considerably toward one end or the other, some not at all; color white; skin fairly smooth; eyes medium size, shallow. A good looking potato. Does not sprout quickly, and is a good keeper.

Pride of Michigan. Plants 20 to 24 inches tall; not very spreading, medium sized stems, regular in row.

Tubers medium to large; medium length, slightly flattened; color white, with occasional pink markings; skin smooth; eyes shallow; sprouts quickly. Potatoes grow close and deep. Not a very heavy yielder.

Quick Crop. (Vick.) Plants 24 to 28 inches tall; very broad spreading; large stalks with long rather slender branches, even in row; very little tendency to blight.

Tubers medium to large; short to medium in length, thick, some slightly flattened, others roundish or oval; somewhat resembling Suffolk Beauty in form; color white with a very slight pink tint; skin very smooth on some, inclined to be rough on others; eyes medium size, medium depth, conspicuous. Quite a good looking variety and a fairly good keeper.

Salzer's Earliest. Plants 16 to 20 inches tall; upright, medium sized stems; tops resembling Early Trumbull; not quite as thrifty.

Tubers resemble Bliss Triumph but not quite as large. This variety blights worse than Early Trumbull. Not a good yielder.

Sir Walter Raleigh. Plants 22 to 26 inches tall; a tall, upright, spreading vine; large stalks, slender upright branches, resembling Carman No. 3 in manner of growth. Not much inclined to blight.

Tubers medium to large; short, thick, slightly flattened, tendency to oval, resembling Carman No. 3 very much in form; color white, but not as clear as Rural New Yorker No. 2; skin smooth, clean; eyes few, small, usually very shallow and inconspicuous. A good market sort. Sprouts quite quickly; keeps about the same as Carman No. 3.

Snowflake, Jr. Plants 20 to 24 inches tall; upright, spreading, resembling Carman No. 3 in manner of growth; vigorous, small leaflets. Very little tendency to blight.

Tubers medium to large; short, thick, some somewhat oval in outline. Resembles Sir Walter Raleigh somewhat but does not have tendency to flatten; color clear white; skin smooth, clean; eyes medium size, quite shallow; a clean looking potato. Yielded about the same as Early Trumbull the one season tested here (1901). Sprouts quite quickly, but is a fairly good keeper.

Spring Valley No. 2000. (J. W. Calhoun.) Plants 18 to 22 inches tall; a broad spreading, upright grower, vigorous, quite even; very little tendency to blight.

Tubers medium to large, few too small for market; short, thick, slightly flattened, some oval, some tapering; resembling Snowflake, Jr., in shape and color; color white; skin smooth; eyes medium size, mostly shallow. A good yielder and a promising potato. Does not sprout badly. Has about the same keeping qualities as Carman No. 3.

State of Wisconsin. Plants 20 to 26 inches tall; upright, dark colored leaflets, several small hills; not inclined to blight much.

Tubers medium to large; very short, some somewhat flattened, mostly not flattened, some quite oval; color clear white, same as Rural New Yorker No. 2; skin very smooth and clean; eyes few, small, shallow, inconspicuous. A very clean looking potato. Not a very good yielder. Does not sprout badly. Has fairly good keeping qualities.

Suffolk Beauty. Plants 20 to 24 inches tall; a rather tall, upright, spreading grower; large stalks and branches; very little tendency to blight.

Tubers medium to large; short to medium, thick, somewhat flattened, some quite oval; color white, although not very clearly so, seems to have a pinkish tint; skin quite smooth; eyes large, shallow to medium depth. Resembles Quick Crop somewhat. Has yielded about the same as Carman No. 3 at the Station. Sprouts very little. A good keeper.

June. (The) (Jerrard.) Plants 20 to 24 inches tall; very stocky, upright, somewhat spreading; leaflets very small, vigorous; not inclined to blight.

Tubers medium size; medium to long, mostly slightly flattened, some oval, some tapering toward one end or both; color white, shade of Sir Walter Raleigh; sunburns easily; skin quite smooth, a slight tendency to roughness; eyes medium size, very shallow, inconspicuous; resembles Livingston somewhat. Gave a fair but not heavy yield here the one season tested (1901). Does not sprout quickly. Firm, and a good keeper.

Roberts (The). (Gregory.) Plants 18 to 22 inches tall; broad spreading, has an abundance of foliage; vigorous; not inclined to blight.

Tubers medium to large; medium length, mostly slightly flattened, slightly tapering; color white, some have red tint; skin smooth and clean; eyes small and of medium depth. A very clean looking potato. Gave a good yield this year (1901). Sprouts quite quickly. A fairly good keeper. Promising as an early sort.

Milwaukee (The). (Currie Bros.) Plants 16 to 20 inches tall; a broad spreading plant, heavy foliage, vigorous; not inclined to blight.

Tubers medium size; medium to long, slightly flattened, a little irregular, some oval, some decidedly tapering; color would be called white although it seems to have a pink tint; skin quite smooth; eyes medium size and medium depth; potatoes too rough to make best appearance. Tubers grow shallow and close together. Did not give quite as good a yield as Roberts. Sprouts quite quickly. A fairly good keeper.

Triumph. Plants 18 to 24 inches tall; a rank grower, spreading, large heavy stalks; very much inclined to blight.

Tubers medium size; short, rounded, quite regular; color deep pink; reddish; skin quite smooth; eyes rather deep; grows scattering and shallow. Not a good color. Very early but of poor quality.

Uncle Sam. Plants 20 to 24 inches tall; upright, somewhat spreading grower; large stalks, stands up well; not much inclined to blight.

Tubers medium to large; medium to long, slightly flattened, some oval, some taper toward one end or the other; color white; skin smooth; eyes small to medium size, shallow. A fine looking potato. Quality fair, a good yielder, and a good keeper.

Vaughan's Improved Early Ohio. (Vaughan.) Plants 16 to 20 inches tall; a low, broad spreading grower, even in row, vigorous; somewhat inclined to blight.

Tubers medium to large; medium length, thick, good form; color deep pink; skin a little rough; eyes medium depth; does not seem to be much of an improvement over the Early Ohio, although it yielded heavier here this season (1901).

Vigorosa. Plants 20 to 25 inches tall; upright, spreading, large stalks, even in row, heavy foliage; very little tendency to blight.

Tubers medium to large; medium to long, mostly considerably flattened, oval, quite uniform; color white; skin quite smooth, with slight tendency to roughness on seed end. Tubers of good size, shape and appearance. Yielded as well or a little better than Sir Walter Raleigh the past three seasons at the Station. Sprouts quite quickly, a little inclined to shrivel, but a fairly good keeper.

White Beauty. Plants 20 to 28 inches tall; upright, spreading, slender stems, irregular in row; somewhat inclined to blight.

Tubers medium to large; long, nearly cylindrical, slightly flattened, mostly of uniform diameter nearly entire length, some taper slightly; color white; skin a little rough, russeted over entire surface; eyes very small, very shallow, inconspicuous. Has yielded about the same as Joseph the past three seasons. Does not sprout very quickly, and remains very firm, apparently one of the best keepers.

White Bliss Triumph. Plants 18 to 24 inches tall; upright, not very spreading, heavy stems, not much branched, large leaflets, foliage thin; not much inclined to blight.

Tubers medium to large; very short and thick, diameter usually greater than length, very slight tendency to flatten; color white, very slight pink tint to eyes; eyes few, quite large, shallow; skin fairly smooth. Resembles Junior Pride of the South very closely. A fair but not heavy yielder. Does not sprout quickly. A good keeper.

White Mountain. Plants 24 to 30 inches tall; upright, large stalks with long slender branches, regular in row, heavy foliage; very little tendency to blight.

Tubers medium to large; short to medium, quite thick, some slightly flattened, others not all, some oval, some cylindrical; color white; skin has a tendency to roughness around seed end; eyes medium size, shallow to medium depth. A standard potato in some sections of the country. Has given as good or better yields than Carman No. 3 at the Station. Does not sprout quickly. Is firm and a good keeper.

White Ohio. Plants 16 to 20 inches tall; a strong grower, upright, medium to large stalks, large leaflets, thick, light colored foliage.

Tubers medium size; short to medium length; color white, with pink markings and pink eyes; skin quite smooth; eyes medium size and medium depth; good form but rather small. Not as early as Early Ohio. A fair yielder. Sprouts very little, very firm. Seems to have about the same keeping qualities as Early Ohio.

Whiton's White Mammoth. Plants 22 to 30 inches tall; upright, spreading, stalks thick, foliage thick, long slender leaflets, regular in row; not much inclined to blight.

Tubers medium to large; short to medium, rather thick, not very uniform, some taper quite decidedly, flattened; color white; skin quite smooth; eyes small, medium depth. A good yielder and a reliable market sort. Sprouts quite quickly, but seems to be a good keeper.

Wonderful. (Hammond.) Plants 20 to 24 inches tall; upright, somewhat spreading, not a very strong grower, healthy, not inclined to blight.

Tubers medium to large; long to very long, cylindrical, sometimes slightly flattened, mostly decidedly tapering toward one end or the other; color white with a pink tint deep in the skin; skin russeted; eyes small, shallow, inconspicuous. Does not sprout quickly nor badly. Apparently a very good keeper.

FERTILIZERS ON POTATOES

In the accompanying diagram and table we have endeavored to show the effect of direct application of fertilizers, made up of different constituents and in different proportions, to the potato crop, in the three-crop rotation of potatoes, wheat and red clover, as conducted on the Station farm.

We have not taken into consideration the application of fertilizers to the wheat crop on these same plots, which no doubt had some influence on the potato crop, nor have we made any reference to the benefit the following crops derived from the application of the fertilizers to the potato crop; these points will be considered in another later bulletin.

Where the word "average" is used in the second and third columns of the table, we mean that we have taken the average yield, average increase, etc., for a period of eight years.

In estimating the value of the increase per acre we have estimated potatoes at 40 cents per bushel.

By examining the diagram and table, we find that the superphosphate gave the largest increase of any of the fertilizer constituents used in the experiment.

We also see that the application of either muriate of potash or nitrate of soda, in combination with superphosphate, gave a greater increase than the combined increase of either when applied separately, and that there is very little choice between them; the nitrate of soda and superphosphate apparently producing the increase at a little less cost per bushel.




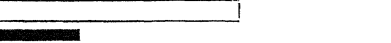

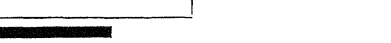
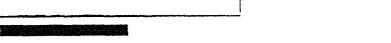
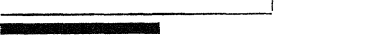

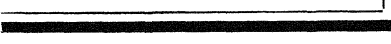
On the other hand, the application of superphosphate, muriate of potash and nitrate of soda in combination does not give quite as great an increase (26 bushels) as the combined increase of the three constituents when applied separately (29 bushels).

Plot 15 shows that there is a limit to the amount of fertilizer that can be profitably applied to the potato crop. On this plot we get the greatest increase, but at the largest cost per bushel and greatest total cost. At the price taken (40 cents per bushel) the cost of fertilizer exceeds the value of the increase by nearly \$3.00.

By comparing columns 5 and 6 in the table we see that the cost of fertilizer per bushel of increase does not necessarily correspond with the net gain. Plot 2 produced the increase at the least cost per bushel, but Plot 6 gives the greatest net gain, and Plots 8 and 11 are ahead of Plot 2 in net gain.

Judging from the results of the experiment on the plots given is the diagram, as well as of other experiments being conducted on the Station farm, it seems apparent that the amount of muriate of potash used in the test might be considerably reduced without diminishing the increase to any marked extent.

FERTILIZERS ON POTATOES—EIGHT-YEAR AVERAGE RESULTS

Plot	Fertilizer per acre			Value of increase per acre and cost of fertilizer	Cost of fertilizer per acre	Average yield per acre	Average increase per acre *	Value of increase per acre	Value of increase per acre over cost of fertil- izer	Cost of fertilizer per bushel of increase
	Super- phos- phate	Muriate of potash	Nitrate of soda							
	Pounds	Pounds	Pounds							
2	160	.....	.....		\$ 1.20	Bushels 172.5	Bushels 14.0	\$ 5.58	\$4.38	\$0.09
3	.....	100	.....		2.50	166.5	7.7	3.10	0.60	0.32
5	.....	.....	80		2.00	165.8	7.7	3.08	1.08	0.26
6	160	.....	80		3.20	182.3	25.2	10.08	6.88	0.13
8	160	100	.....		3.70	180.8	25.6	10.24	6.54	0.14
9	.....	100	80		4.50	172.8	18.5	7.38	2.88	0.24
**11	160	100	80		5.70	173.6	26.6	10.64	4.94	0.21
12	160	100	160		7.70	178.6	27.6	11.04	3.34	0.28
14	320	200	160		11.40	182.3	33.5	13.40	2.00	0.34
15	480	300	320		19.10	188.2	40.6	16.24	-2.86	0.47

*In these experiments every third plot (Nos. 1, 4, 7, etc.) is left continuously unfertilized, and the increase for each fertilized plot is computed on the yields of the two unfertilized plots between which it lies.

**For plot 11 we have used the average of 8 plots which received the same application of fertilizer as did plot 11; we think this gives a fairer test, plot 11, from some reason, being considerably below the average.

SUMMARY

Among the varieties of potatoes tested at the Station the past season (1901) the ten which gave the heaviest yield, in order of yield, were Northern Beauty, Quick Crop, Maule's Early Thoroughbred, Early Norwood, Early Fortune, Pingree, Roberts, Early Rose and Pat's Choice.

Among those tested the past three seasons, the ten heaviest yielders were Vigorosa, Maule's Early Thoroughbred, Early Rose, Whiton's White Mammoth, Livingston, Sir Walter Raleigh, Sir William, Uncle Sam, Pat's Choice and Pingree.

Of those tested the past five years, the ten leading varieties in point of yield were Enormous, Livingston, Early Trumbull, Uncle Sam, Sir William, Sir Walter Raleigh, Bovee, Maule's Early Thoroughbred, Suffolk Beauty and Carman No. 3.

The following varieties can be recommended, especially for market:

(Early) Early Trumbull, Early Thoroughbred, Bovee, Early Harvest and Early Ohio.

(Late) Livingston, Whiton's White Mammoth, Enormous, Sir Walter Raleigh and Carman No. 3.

The following can be recommended especially for home use: Early Trumbull, Early Harvest, Livingston, Pat's Choice and Uncle Sam.

In selecting these varieties for this list it does not necessarily follow that these are the only varieties among those tested at the Station that can be depended upon; it simply means that, all things considered, these varieties have proven to be the five most satisfactory sorts in each class for this soil and climate, as demonstrated by past experiments. What the future may bring forth we know not, but there seem to be some quite promising sorts among the newer varieties.

Superphosphate has continued to give the greatest and most profitable increase of any of the fertilizer constituents used in the experiment.

The application of either nitrate of soda or muriate of potash in combination with superphosphate have given a greater net gain than the superphosphate alone; nitrate of soda having a slight advantage over the muriate of potash.

The application of too large an amount of fertilizer has proven to be a financial loss when the potato crop alone is considered, as shown on Plot 15.

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